50-390

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 24, 1997

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: REGARDING THE WATTS BAR NUCLEAR PLANT, TRITIUM PRODUCING BURNABLE POISON ROD LEAD TEST ASSEMBLIES (TA NO. M98615)

Dear Mr. Kingsley:

By letter dated April 30, 1997, the Tennessee Valley Authority (TVA) submitted a request for amendment of the Watts Bar Nuclear Plant Unit 1 (WBN) Technical Specifications (TS) that would permit the insertion of lead test assemblies (LTAs) containing tritium producing burnable absorber rods (TPBAR) in WBN during Cycle 2. The amendment application included the Department of Energy's (DOE) Technical Report, PNNL-11419, "Report On The Evaluation of the Tritium Producing Burnable Absorber Rod Lead Test Assembly," prepared by the Pacific Northwest National Laboratory (PNNL).

One objective of the DOE report is to establish that the TPBAR is similar in form and function to a Westinghouse burnable poison rod assembly (BPRA) and wet annular burnable absorber (WABA) rod and as such, should not affect the reactor core any differently than a standard burnable poison (BP) rod. Based on this conclusion, it is the U. S. Nuclear Regulatory Commission (NRC) staff's intention to treat the TPBARs as BPs, and therefore, the staff considers the TPBARs to be safety-related, basic components.

On June 4, 1997, the NRC conducted a public meeting with TVA and representatives from DOE, Westinghouse, and PNNL to discuss TVA's application dated April 30, 1997, regarding TPBAR LTAs. Principal among the topics that were discussed during the meeting were issues related to the safety classification of the TPBARs. Relative to this issue, TVA representatives stated that the TPBARs were considered safety-related consistent with Westinghouse's classification of BP rods and that the basis for the safety-related classification of these components was that their location and design made them an essential element of the reactor core design. However, TVA emphasized that only the absorber pellet, absorber pellet stack, and the completed TPBAR (internal component location) were determined to have a safety function. Therefore, TVA maintained that only the attributes of the components that relate to the quality and distribution of absorber material were considered safety-related.

In separate correspondence dated May 29, 1997, to an NRC inquiry on the subject of BP rods safety classification, Mr. H. A. Sepp of the Westinghouse Electric Corporation, stated, in part, that "The presence and location of the BP rods, in conjunction with the presence of the soluble boron and control rods, determine the appropriate level of reactivity to keep the reactor in a

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safe state. Therefore, in so far as the BP rods are an integral part of the reactivity control of the reactor, they are basic components and safety-related."

The staff's understanding of Westinghouse's position is that the BP rods are basic components and are safety-related. This is consistent with the staff's position on the quality assurance requirements for TPBARs contained in the NRC's letter to DOE, dated February 13, 1997. Specifically, this letter stated that the Commission considered fuel and control rod assemblies to be basic components that, by definition, are designed and manufactured under a quality assurance program complying with the requirements of 10 CFR Part 50, Appendix B, and that all parts thereof (e.g., BPs and TPBARs) are similarly regarded because of their safety function. The staff has always considered BP rods in their entirety to be safety-related and as such, this position includes the TPBARs in their entirety, e.g., end plugs, getter, cladding, plenum spring, etc.

TVA's position that only the attributes of the components that relate to the quality and distribution of absorber material are considered safety-related appears inconsistent with the proposed licensing basis of the entire TPBAR assembly, which is analogous to BP rods, which were considered safety-related. Therefore, the staff requests that TVA provide its written technical justification for deviating from the comparable licensing basis for the BP rods, by July 7, 1997, in order to support the staff's review effort.

Sincerely,

Original signed by

Frederick J. Hebdon, Director
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cc: See next page

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*** - See previous concurrence**

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